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SUPPLEMENTAL SPECIFICATIONS
for
NATIONAL PARK SERVICE PROJECTS
in the
PACIFIC NORTHWEST**



**CASCADE RIVER ROAD
NORTH CASCADES NATIONAL PARK**



CRATER LAKE NATIONAL PARK



**SOL DUC VALLEY ROAD
OLYMPIC NATIONAL PARK**

Developed through a cooperative partnership by:
NPS - Pacific Northwest National Parks
NPS - Denver Service Center
FHWA - Western Federal Lands Highway Division

July 01, 2005

PREFACE

This document is a guideline to assist National Park Service and Federal Highway Administration staff to develop Special Contract Requirements for road and bridge construction projects in Pacific Northwest National Parks.

The following requirements supplement the *Standard Specifications for Construction of Roads and Bridges on Federal Projects (FP-03)*. They should also be used in conjunction with Western Federal Lands Highway Divisions Library of Specifications. Documents may be viewed electronically at <http://www.wfl.fha.dot.gov/design/specs/fp03.htm>.

These specifications are generally written in the imperative mood. In sentences using the imperative mood, the subject, "*the Contractor*," is implied. Also implied in this language are "*shall*," "*shall be*," or similar words and phrases. In material specifications, the subject may also be the supplier, fabricator, or manufacturer supplying material, products, or equipment for use on the project.

Wherever "*directed*," "*required*," "*prescribed*," or other similar words are used, the "*direction*," "*requirement*," or "*order*" of the Contracting Officer is intended. Similarly, wherever "*approved*," "*acceptable*," "*suitable*," "*satisfactory*," or similar words are used, the words mean "*approved by*," "*acceptable to*," or "*satisfactory to*" the Contracting Officer.

The word "*will*" generally pertains to decisions or actions of the Contracting Officer.

Instruction boxes as shown below, are provided as aids for assembling specifications. Read the requirements and amend according. Clear and concise requirements will make for a better product.

Instruction boxes are intended to provide guidance and are not part of the (00/00/00)
final Special Contract Requirements.

Some requirements require insertion of dimension, dates, locations, etc. They will be identified by brackets [*INSERT Park or Monument*].

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Section 105.— CONTROL OF MATERIAL

Include the following for NPS (PNW) projects when material sources outside Park boundaries require heating of material. Edit as required. (07/01/05)

105.01 Source of Supply and Quality Requirements. Add the following:

Before delivery of [INSERT unclassified borrow, select topping, or aggregate] from sources outside [INSERT Park or Monument] boundaries, heat all materials to [INSERT 150° C or 300° F] to ensure sterilization of noxious weed seed. Do not stockpile the heated material outside [INSERT Park or Monument] boundaries prior to delivery.

Include the following for NPS (PNW) projects requiring material sources outside Park boundaries where material heating requirements maybe waived by Park inspection of source. (07/01/05)
Note: Edit as required. Coordinate requirements with Park/DSC.

Heating requirements may be waived if the source meets Park inspection. Submit a list of sources to be inspected within 2 weeks after the advertisement date. In addition to the source name and location, submit potential mitigative measures to be considered during the inspection to make the source weed-free. An inspection report will be furnished 1 week prior to the bid opening date, listing the status of the source and any mitigative measures that would need to be accomplished prior to use. No additional inspections will be made after the inspection report is furnished.

Include the following for NPS (PNW) projects where notification of drilling and blasting is required so that NPS forces can witness. Edit as required. (07/01/05)

Notify the CO [INSERT DAYS] days in advance of any drilling and blasting.

105.02 Material Sources. Amend as follows:

Include the following for NPS (PNW) projects where Government-provided material sources are allowed and delineation is required. Edit as required. (07/01/05)

(a) Government-provided sources. Add the following:

Stake the material source limits for approval by the CO. Mark the perimeter by installing steel posts at [INSERT SPACING foot/meter] intervals. Provide posts according to Subsection 718.09(b).

Include the following for NPS (PNW) projects where Contractor-located material sources are allowed. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

(b) Contractor-located sources. Add the following:

Do not locate sources on private “in-holder” lands within the [INSERT Park or Monument] boundaries.

Include the following for NPS (PNW) projects where specific areas or turnouts are allowed for storing materials. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 103(2), Sol Duc Valley Road

105.04 Storing and Handling Material. Delete the second paragraph and substitute the following:

Use [INSERT LOCATION] for a staging area; for storage of materials, such as culverts, geotextile fabric, temporary traffic control devices; and for equipment parking.

Note: Include the following when specific areas are allowed for storing materials and must be rehabilitated. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 103(2), Sol Duc Valley Road

Confine use of [INSERT LOCATION] to the limits of existing disturbance. Install temporary plastic fence according to Section 635 before beginning work. Repair and restore the surface of [INSERT AREA or LOCATION] to original conditions upon completion of use.

Note: Include the following when turnouts no longer in use are to be open to the public. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

Immediately open turnouts to public traffic when they are no longer being used for staging or storing of materials.

Note: Include the following on all projects.

(07/01/05)

Do not use private property for storage without written permission of the owner or lessee. Furnish copies of all agreements. Restore all Government-provided storage sites to their original condition.

Section 107.— LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Include the following as required on NPS (PNW) projects.

(07/01/05)

107.11 Protection of Forests, Parks, and Public Lands. Add the following:

Due to the fragile ecological system of [INSERT PARK OR MONUMENT NAME], comply with the following:

Note: Include the following when power washing of vehicles and equipment is required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

(a) All vehicles and equipment will be inspected before their entry into the [INSERT Park or Monument] for mud, weeds, and other unwanted substances. Power wash all earth-moving equipment (excluding hauling vehicles) before entry. Clean hauling vehicles before their initial entrance into the Park; subsequent entries will not require cleaning unless requested. Notify the CO a minimum of 48 hours before entry of vehicles and equipment to the [INSERT Park or Monument].

Note: Include the following when feeding or disturbing wildlife is prohibited and preventive measures is required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

() Do not feed or disturb wildlife. To prevent unnatural attractants to wildlife, keep all foods, pet foods, garbage, drinks, trash, or food and drink containers inside vehicles, or enclosed construction equipment, except during actual use. Supply garbage bins, within the construction site that are bear and animal proof. Remove all garbage and food trash from the project site daily.

Note: Include the following when water cannot be removed from waters within Park boundaries. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

() Do not remove water from streams or other bodies of water within the Park.

Note: Include the following when asphalt concrete cannot be produced within Park boundaries. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

() Production of asphalt concrete will not be allowed within the Park boundaries.

Note: Include the following when excessive idling of equipment is not permitted. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

() Furnish equipment and vehicles with mufflers that are in good working order to minimize noise smoke, and fumes. Do not allow equipment to idle for extended periods when not in use.

Note: Include the following on all projects. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-MORA 10(10), State Route 123, Phase I

() Equipment, vehicles, and storage containers leaking fluids will not be permitted. Dumping or disposing of petroleum products, solvents, cleaners, chemicals, wastewater, or other harmful materials onto the ground is prohibited. Clean up spills immediately and inform the CO.

Note: Include the following when camping within Park boundaries is prohibited. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

() Do not camp within the [INSERT PARK OR MONUMENT NAME] boundaries.

Note: Include the following when parking of employee vehicles are limited to certain areas. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

() Employee vehicles are limited to parking at [INSERT LOCATION].

Note: Include the following when tarping of hauling vehicles is required to prevent the spread of noxious weeds. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

() Cover hauling vehicles to prevent the transport of seeds and other foreign materials into the [INSERT Park or Monument].

Note: Include the following when Contractor's business trailers are permitted in designated locations. Edit as required. (07/01/05)

() [INSERT NUMBER AND TYPE OF CONTRACTOR TRAILERS] may be set up at the [INSERT LOCATION] in locations designated by the CO. Electricity, water, or sewer utilities are not available. Provide electricity, water, and waste disposal for trailers. Control storage of food items and disposal of garbage to prevent attraction of wildlife. Dispose of all garbage and waste outside of the Park boundaries.

Note: Include the following when stockpiled topsoil requires protection from airborne seeds. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

() Cover conserved topsoil stockpiles with a breathable water repellent fabric. Provide fabric according to Subsection [INSERT SUBSECTION]. Anchor the fabric around the perimeter to hold it in place.

Note: Include the following when there is extreme concentrations of noxious weeds and topsoil is to be conserved. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

() Do not conserve topsoil from the following locations due to severe concentrations of noxious weeds:

- [INSERT LOCATION]
- [INSERT LOCATION]
- [INSERT LOCATION]

Haul topsoil from these locations to the [INSERT LOCATION] for disposal.

Note: Include the following when there will be an orientation meeting conduct by the NPS for Contractor personnel. (07/01/05)

() The contractor, subcontractor and all employees will be required to attend Park orientation meetings presented by the National Park Service prior to beginning work. Notify the CO 14 days before beginning work so the orientation can be scheduled.

Section 157.— SOIL EROSION CONTROL

Construction Requirements

Include the following for NPS (PNW) projects requiring filter barriers and wattles (07/01/05) are the preferred treatment.

157.05 Filter Barriers. Delete the text of this subsection and substitute the following:

Install wattles for filtering sediment from runoff and reducing the velocity of sheet flow.

Include the following for NPS (PNW) projects requiring temporary turf establishment to be placed using hydraulic methods. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

157.11 Temporary Turf Establishment. Delete the text of this subsection and substitute the following:

Apply [INSERT seed, fertilizer, and mulch] for soil erosion protection at the rates shown in Table 157-1. Perform operations when no rainfall is anticipated for 24 hours.

Apply seed using hydraulic-type equipment capable of providing a uniform application using water as the carrying agent. Add a tracer material consisting of either wood or grass cellulose fiber mulch to the water. Apply the tracer material at a rate of 450 kilograms per hectare to provide visible evidence of uniform application. Add the seed to the water slurry no more than 30 minutes before application. Seed by hand areas inaccessible to seeding equipment.

Apply mulch in a separate application from the seed using hydraulic-type equipment. Mulch by hand areas inaccessible to mulching equipment.

**Table 157-1
Application Rates for Temporary Turf Establishment**

Material	Application Rate [INSERT kg/ha or pounds/acre]
Seed	[INSERT NUMBER]
Fertilizer	[INSERT NUMBER]
Mulch	[INSERT NUMBER]

Section 201.— CLEARING AND GRUBBING

Include the following for NPS (PNW) projects requiring landscaping logs or rootwads to be conserved. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

201.01 This work also consists of conserving logs for use as [INSERT landscaping logs, log deflectors] in Section 647.

Description

Include the following for NPS (PNW) projects requiring these terms to be defined. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

201.01A Definitions. (Added Subsection.)

- (a) **Drip line.** The outer most tip of a branch or limb.
- (b) **Root zone.** The area within the drip line.

Construction Requirements

Include the following on NPS (PNW) projects requiring clearing and grubbing. Add applicable paragraphs as noted. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 103(2), Sol Duc Valley Road

201.03 General. Delete the text of this Subsection and substitute the following:

Stake the clearing and grubbing limits according to Section 152.

Construct erosion control measures according to Section 157.

Note: Include the following when vegetation is to be protected by temporary plastic fence. (07/01/05)

Prior use:

**OR PRA-CRLA 11(4), Rehabilitate Highway 62 West
WA PRA-MORA 10(10), State Route 123, Phase I
WA PRA-OLYM 102(2), Grandey Creek Bridge
WA PRA-OLYM 103(2), Sol Duc Valley Road**

Install temporary plastic fence to protect vegetation and critical root zones designated to remain according to Section 635.

Note: Include the following when vegetation to remain is delineated by construction tape or ribbon. (07/01/05)

Prior use:

**OR PRA-CRLA 11(4), Rehabilitate Highway 62 West
WA PRA-MORA 10(10), State Route 123, Phase I
WA PRA-OLYM 102(2), Grandey Creek Bridge
WA PRA-OLYM 103(2), Sol Duc Valley Road**

Install [INSERT construction tape OR ribbon] to protect vegetation and critical root zones designated to remain.

Note: Include the following on all projects when clearing and grubbing is required. (07/01/05)

Prior use:

**OR PRA-CRLA 11(4), Rehabilitate Highway 62 West
WA PRA-MORA 10(10), State Route 123, Phase I
WA PRA-OLYM 103(2), Sol Duc Valley Road**

Do not damage vegetation outside the clearing limits or within fenced areas. Do not fasten ropes, cables, or guy wires to trees. Prune limbs, branches, and treat cuts, scarred surfaces and shrubs according to ANSI A300 (Part 1). Protect tree roots from damage. Keep exposed roots moist until covered with soil. Do not remove tree roots unless approved by the CO.

If protected vegetation is damaged or destroyed, repair or replace, pay the damages, or any combination as determined by the CO.

Note: Include the following when litter, topsoil or both is to be conserved before grubbing stumps. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

Conserve [INSERT litter OR topsoil OR litter and topsoil] according to [INSERT Section 624 OR Subsection 204.05] before grubbing stumps. Do not drive or park on topsoil.

Note: Include the following when topsoil is to be conserved before grubbing stumps and grasses and vegetation are to be included in the topsoil. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 103(2), Sol Duc Valley Road

Conserve topsoil according to Subsection 204.05 before grubbing stumps. Do not drive or park on topsoil. Breakdown grasses and other vegetation less than [INSERT 1 meter OR 3 feet] in height by mowing, shredding or chipping and incorporate into the topsoil.

Note: Include the following when landscaping logs or rootwads are to be conserved. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

The CO will designate trees and snags to be conserved for use as landscaping logs. When entire trees or snags cannot be conserved, salvage trees and snags in random lengths from [INSERT minimum and maximum lengths]. Salvage trees and snags such that limbs are left in place and the entire tree or snag is conserved to the extent practical. Remove limbs from one side to allow the tree or snag to lie flat on the slope. Prepare salvaged trees and snags in such a manner as to provide irregular broken ends.

Include the following when logs are to be conserved as log deflectors for fish habitat. Edit as required. (07/01/05)

The CO will designate logs with rootwads to be conserved as log deflectors for fish habitat. Special care and handling will be required to protect the rootwad and attached log during removal, stockpiling and placement. Salvage trees and snags such that limbs are left in place and the entire tree or snag is conserved to the extent practical. Provide log lengths from [INSERT minimum and maximum lengths] in length. Prepare salvaged logs in such a manner as to provide irregular broken ends.

Note: Include the following when pushing over trees as a method of clearing is not permitted. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

Do not push trees over with heavy equipment. Remove vegetation in a manner that does not compact or gouge the topsoil. Do not mix topsoil with subsoils.

Include the following when logs are to become the property of the Government. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

Perform felling, bucking, and decking of timber according to standard practices with a minimum of breakage, damage, and waste. Saw timber with a diameter at breast height (DBH) of [INSERT LOG DIAMETER] and greater into [INSERT LOG LENGTH] log lengths. Deck timber at [INSERT LOCATION]. The CO will establish the exact boundaries of the site. Deck timber in a manner suitable for loading by others with self-loaders.

Include the following for NPS (PNW) projects where care is required when falling trees within the clearing limits and vegetation is designated to remain. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

201.04 Clearing. Delete the text of paragraph (a) and substitute the following:

(a) Cut all trees so they fall within the clearing limits and away from vegetation designated to remain. Do not allow falling trees to contact vegetation designated to remain.

Include the following for NPS (PNW) projects where trees within the clearing limits are designated to remain. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-OLYM 103(2), Sol Duc Valley Road

201.04 Clearing. Add the following:

() Special equipment or techniques may be required to perform clearing around trees designated to remain.

Include the following for NPS (PNW) projects where decking of logs against trees designated to remain is prohibited (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 103(2), Sol Duc Valley Road

201.04 Clearing. Add the following:

() Do not deck logs against trees designated to remain.

Include the following for NPS (PNW) projects where trees within the clearing limits are designated to remain. Edit as required. (07/01/05)

201.05 Grubbing. Add the following:

Use only hand methods for grubbing inside drip lines of trees designated to remain.

Include the following for NPS (PNW) projects where merchantable timber will be property of the Government. (07/01/05)

201.06 Disposal. Delete the text of this Subsection and substitute the following:

Merchantable timber is the property of the Government. Dispose of clearing and grubbing debris according to Subsection 203.05.

Section 204.— EXCAVATION AND EMBANKMENT

Include the following for NPS (PNW) projects when conserved topsoil is required. Edit as required.

(07/01/05)

Description

204.02 Definitions. Delete paragraph (c) and substitute the following:

(c) **Conserved topsoil.** Excavated material conserved from the roadway excavation and embankment foundation areas that is free from toxic substances, hard soil, rock, clay, toxic substances, litter or other deleterious material, and is suitable for growth of grass, cover crops or native vegetation. Topsoil refers to the uppermost soil horizon, approximately [INSERT DEPTH inches OR millimeters] deep. It may include decayed organic and other materials capable of supporting vegetation.

Include the following for NPS (PNW) projects when conserved topsoil is required. Edit as required.

(07/01/05)

Prior use:

WA PRA-OLYM 103(2), Sol Duc Valley Road

204.05 Conserved Topsoil. Delete the text of this Subsection and substitute the following:

Conserve topsoil from roadway excavation and embankment foundation areas. Remove the topsoil in one pass. Use equipment capable of excavating small isolated pockets of topsoil. Manually remove topsoil in areas where topsoil cannot be removed mechanically. Do not mix topsoil with subsoil. Do not stockpile topsoil longer than three months. Stockpile topsoil in windrows less than [INSERT one meter OR 3 feet] high. Do not compact or drive upon topsoil during removal.

Place conserved topsoil on finished slopes according to Section 624.

Include the following paragraph if topsoil and litter is to be conserved. Edit as required.

(07/01/05)

Note: Coordinate with Section 624 if necessary.

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

204.05 Conserved Topsoil. Delete the title and text of this Subsection and substitute the following:

204.05 Conserved Litter and Topsoil. Conserve litter and topsoil from the roadway excavation and embankment foundation areas.

Litter, approximately [INSERT DEPTH inches OR millimeters] deep, overlies the topsoil. Sequence the salvaging and stockpiling of the litter and topsoil in the following order:

- (a) Salvage and stockpile dead logs. Keep logs separate from other stockpiled material;
- (b) Salvage litter and stockpile immediately beyond the limits of the cut and embankment slopes or in obliterated areas. Do not mix litter with topsoil or subsoil; and then
- (c) Salvage and place topsoil in windrows immediately beyond the limits of the cut and embankment slopes. Remove the topsoil in one pass if possible. Use equipment capable of excavating small isolated pockets of topsoil. Manually remove topsoil in areas where equipment operation is not allowed or practical. Do not mix topsoil with subsoil or litter. Do not compact or drive upon topsoil during removal.

Do not stockpile litter or topsoil longer than three months. Stockpile in windrows less than [INSERT one meter OR 3 feet] high.

Place litter and topsoil according to Section 624.

Include the following paragraph if topsoil is required. Edit as required. (07/01/05)
Prior use:
MORA (WA PRA-MORA 10(10), State Route 123 Phase 1

204.05 Conserved Topsoil. Delete the text of this Subsection and substitute the following:

Remove topsoil before beginning other operations. Extract topsoil in one pass if possible. Use equipment capable of excavating small isolated pockets of topsoil. Manually rake topsoil in areas where topsoil cannot be removed mechanically. Do not mix topsoil with subsoil. Do not compact or drive upon topsoil during removal.

Conserve topsoil to a depth of [INSERT millimeters OR inches].

Stockpile topsoil from the left and right sides of the road separately. Stockpile topsoil in windrows less than [INSERT DEPTH meters OR feet] high along the upper edge of the disturbance or in turnouts. Identify removal areas and stockpiles with stakes so that topsoil may be replaced in the same locations. If it is impractical to windrow topsoil adjacent to the disturbed area, remove the topsoil and stockpile at locations described in Subsection 105.04. Provide diagrams of each stockpile storage areas so they can be identified if the stakes are lost or removed.

Haul excess topsoil to the nearest area requiring topsoil, but lacking in quantity as directed by the CO. Do not conserve topsoil from the locations with severe concentrations of noxious weeds [INSERT Subsection REFERENCE IF APPLICABLE].

Do not stockpile topsoil for longer than three months unless approved by the CO. Do not stockpile topsoil over the winter. Place conserved topsoil according to Section 624.

Include the following boulders are to be conserved and stockpiled. Edit as required. (07/01/05)

**Prior use:
OR PRA-CRLA 11(4), Rehabilitate Highway 62 West**

204.05A Conserved boulders. (Added Subsection.)

Conserve and stockpile boulders from the roadway excavation. Stockpile boulders at [INSERT LOCATION] in an area designated by the CO.

Include the following rock blasting is not permitted. (07/01/05)

**Prior use:
WA PRA-MORA 10(10), State Route 123 Phase 1**

204.06 Roadway Excavation. Amend as follows:

(a) General. Add the following:

Use caution when excavating adjacent to stone masonry guard walls and wall foundations.
Do not damage the structures.

Include the following rock blasting is not permitted. (07/01/05)

**Prior use:
OR PRA-CRLA 11(4), Rehabilitate Highway 62 West**

204.06 Roadway Excavation. Amend as follows:

(b) Rock cuts. Delete the first sentence and substitute the following:

Rock blasting will not be permitted.

Include the following for NPS (PNW) projects undulating slopes are required. (07/01/05)
Edit as required.

204.13 Sloping, Shaping, and Finishing. Amend as follows:

(a) **Sloping.** Delete the text of this paragraph and substitute the following:

Leave all slopes with roughened surfaces as they are being constructed. Construct slopes to staked slope ratios, but steepen or flatten randomly and intermittently to simulate the irregularity of existing terrain. Except in solid rock, round tops and bottoms of all slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale all rock slopes.

Section 211.— ROADWAY OBLITERATION

Include the following for NPS (PNW) projects when topsoil or turf establishment is required on obliterated areas. Edit as required. (07/01/05)

Prior use:

Description

211.01 Add the following:

Apply [INSERT conserved topsoil, furnished topsoil, seed, fertilizer, mulch] on finished slopes according to [INSERT Section 624 and 625].

Include the following for NPS (PNW) projects when obliterating areas. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West
WA PRA-MORA 10(10), State Route 123, Phase I
WA PRA-OLYM 102(2), Grandey Creek Bridge
WA PRA-OLYM 103(2), Sol Duc Valley Road

Construction Requirements

211.02 Delete the text of this Subsection and substitute the following:

Construct erosion control devices according to Section 157.

Conserve topsoil according to Subsection 204.05.

Conform to the following when obliterating or closing roadways:

(a) **Rigid material.**

Include the following when rigid, non-asphalt materials are to be removed from the project. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West
WA PRA-MORA 10(10), State Route 123, Phase I
WA PRA-OLYM 102(2), Grandey Creek Bridge
WA PRA-OLYM 103(2), Sol Duc Valley Road

(1) Nonasphalt material. Break concrete pavements, curbs, gutters, sidewalks, and other nonasphalt rigid material into pieces and dispose of it according to Subsection 203.05(a).

Include the following when rigid, asphalt materials are to be removed from the project. (07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

(2) Asphalt material. Dispose of asphalt material according to Subsection 203.05(a) and in a manner consistent with State and local regulations. Asphalt material may be considered hazardous waste. Furnish copies of the disposal permits.

Include the following when rigid, asphalt materials are to be incorporated into the work. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

(2) Asphalt material. Reduce asphalt pavement to a size one and one half times the maximum sized aggregate or to [INSERT 1½ inches OR 40 millimeters], whatever is greater and use as [INSERT MATERIAL DESCRIPTION].

Include the following when nonrigid, nonasphalt materials are to be removed from the project or stockpiled. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

(b) Nonrigid Material.

(1) Nonasphalt material. Scarify or rip the gravel, crushed stone, or other nonrigid surface, base, and subbase material and dispose of [INSERT DISPOSAL/STOCKPILE REQUIREMENTS OR according to Subsection 203.05(a)]. Do not mix with underlying soils. Scarify soils to a depth of [INSERT DEPTH IN millimeters or inches].

Include the following on all projects requiring work in this Section.

(07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

(2) Asphalt contaminated material. Dispose of asphalt contaminated material according to Subsection 211.02(a)(2).

Section 305.— AGGREGATE-TOPSOIL COURSE

Include the following for NPS (PNW) projects when seed is not required in the mixture. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

Description

305.01 Delete the text of this Subsection and substitute the following:

This work consists of furnishing and placing an aggregate-topsoil course on a prepared shoulder or other prepared surface.

Material

305.02 Delete the text of this Subsection and substitute the following:

Conform to the following Subsection:

Aggregate	713.14
Topsoil	713.01
Water	725.01

Construction Requirements

305.04 Mixing, Placing, and Compacting. Delete the text of this Subsection and substitute the following:

Furnish a mixture of 60±10 percent aggregate and 40±10 percent [INSERT conserved OR furnished] topsoil by volume with sufficient water for compaction.

Mix the components into a uniform mixture. Spread the mixture on the prepared surface in a uniform layer. Shape the mixture to the line, grade, and cross-section. Remove all clods and stones greater than 2 inches in diameter.

Uniformly compact the mixture so that it does not exhibit heaving, pumping, rutting, or shearing. Compaction tests may be waived by the CO if acceptable compaction is demonstrated.

Remove all material from the pavement surface upon completion.

Section 622.— RENTAL EQUIPMENT

Include the following for NPS (PNW) projects when rental equipment is required. (07/01/05)
Edit as required.

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

Description

622.01 Delete the text of this Subsection and substitute the following:

This work consists of furnishing and operating equipment for the construction work as ordered by the CO and listed below. Work under this Section does not include equipment time used to perform work provided for under any other pay item shown in the bid schedule. The work anticipated under this Section includes:

- (a) Minor landscaping;
- () Minor drainage corrections;
- () Final grading and shaping of the [INSERT FEATURE];
- () Cleaning [INSERT FEATURE];
- () Constructing [INSERT WORK]; and
- () [INSERT WORK DESCRIPTION].

Construction Requirements

622.02 Rental Equipment. Delete the text of the first paragraph and substitute the following:

Furnish and operate the following equipment:

Number of Units	Type of Equipment
[INSERT #]	[INSERT EQUIPMENT TYPE]

Submit the model number and serial number for each piece of equipment before use. Make equipment available for inspection and approval before use.

Section 624.— TOPSOIL

Include the following for NPS (PNW) projects when the Government furnishes topsoil. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

Description

624.01 Add the following:

This work also consists obtaining and placing Government furnished topsoil.

Include the following for NPS (PNW) projects when litter is to be conserved and placed back on slopes. Edit as required. (07/01/05)

Description

624.01 Add the following:

This work also consists of conserving and placing litter.

624.01A Definitions. (Added Subsection.)

(a) **Litter.** Excavated material conserved from excavation and embankment foundation areas. Litter is the surface layer of fresh to partially decomposed organic material (leaves, needles, twigs, stems, bark, and fruits). Depending on the time of year, the fresh organic portion of the layer may not be present. Partially decomposed litter may be identified as organic material with portions of plant structures still recognizable.

Construction Requirements

Include the following for NPS (PNW) projects when topsoil is required. Edit as required. (07/01/05)

624.03 Preparing Areas. Add the following:

On slopes steeper than 1:3, roughen the surface with equipment to form furrows parallel with the slope contours.

Include the following for NPS (PNW) projects when furnished and conserved topsoil is placed. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

624.04 Placing Topsoil. Amend as follows:

Delete the text of the first paragraph and substitute the following:

Provide at least 7 days notice before the start of topsoil placement. Do not place topsoil when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Place [INSERT inches OR millimeters] of furnished topsoil. Cover furnished topsoil with conserved topsoil. Place furnished and conserved topsoil to a depth of [INSERT inches OR millimeters]. Place topsoil by hand in areas where machine placement is not allowed or practical. Keep the roadway surfaces clean during hauling and spreading operations.

Delete the text of the third paragraph and substitute the following:

Compact each layer of topsoil after placement using a cleated roller, crawler tractor, or other similar equipment that will form longitudinal depressions at least [INSERT 2 inches OR 50 millimeters] deep perpendicular to the natural flow of water.

Include the following for NPS (PNW) projects when Government furnished and conserved topsoil is placed. Edit as required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

624.04 Placing Topsoil. Amend as follows:

Add the following:

Notify the CO two weeks before obtaining Government furnished topsoil. Obtain Government furnished topsoil at [INSERT LOCATION AND DIRECTIONS].

Delete the text of the second paragraph and substitute the following:

Spread topsoil to a depth that, after settlement, provides the required depth. Break clods and lumps with harrows, disks, or other appropriate equipment to provide a uniform textured soil. Remove and dispose of all rocks and woody material, including stumps, roots, and branches, larger than [INSERT 4 inches OR 100 millimeters] before spreading according to Subsection 203.05.

Add the following:

Place topsoil onto ledges, pockets and depression on buttress rock slopes by mechanical or hand labor means. As a minimum, spread topsoil on upper 2/3 of embankment. Once topsoil has been placed on slopes, do not drive any equipment over it.

Place conserved topsoil before [INSERT DATE] of the year it is salvaged.

Place Government furnished topsoil in planting pockets, on flatten fill slopes located at [INSERT STATIONS] as directed by the CO.

**Include the following for NPS (PNW) projects when conserved topsoil is placed. (07/01/05)
Edit as required.
Prior use:
WA PRA-OLYM 102(2), Grandey Creek Bridge**

624.04 Placing Topsoil. Amend as follows:

Add the following to the first paragraph:

Seed and mulch within 7 days of placing topsoil. Place topsoil close to its original location.

Delete the text of the second paragraph and substitute the following:

Spread topsoil to a depth that after settlement, provides the required depth. Break clods and lumps with harrows, disks, or other appropriate equipment to provide a uniform textured soil. Remove and dispose of all stump, roots and branches larger than [INSERT 3 inches OR 75 millimeters] and rock larger than [INSERT 12 inches OR 300 millimeters] upon completing spreading.

Add the following:

Apply topsoil beginning September 1 through October 15.

On slopes steeper than 1:1.5 place topsoil to a depth of [INSERT inches OR millimeters]. On slopes of 1:1.5 or flatter, and riprap slopes, place topsoil to a depth of [INSERT inches OR millimeters]. Place topsoil by hand in areas where machine placement is not allowed or practical.

Delete the third paragraph.

Include the following for NPS (PNW) projects when conserved topsoil is placed. (07/01/05)

Edit as required.

Prior use:

WA PRA-OLYM 103(2), Sol Duc Valley Road

624.04 Placing Topsoil. Amend as follows:

Delete the text of the second paragraph and substitute the following:

Spread topsoil to a depth that after settlement, provides the required depth. Break clods and lumps with harrows, disks, or other appropriate equipment to provide a uniform textured soil. Remove and dispose of all stumps, roots, and branches larger than [INSERT 3 inches OR 75 millimeters] and rock larger than [INSERT 12 inches OR 300 millimeters] upon completion of spreading. Remove stone under [INSERT 12 inches OR 300 millimeters] that are not firmly embedded and those that protrude more than 4 inches.

Place topsoil onto ledges, pockets and depression on rock slope by mechanical or hand labor means. Once topsoil has been placed on slopes, do not drive any equipment over it.

Include the following for NPS (PNW) projects when litter is required. Edit as (07/01/05) required.

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

624.04A Conserving and Placing Litter. (Added Subsection.)

Conserve litter from excavation and embankment foundation areas. Remove the litter in one pass. Use equipment capable of excavating small isolated pockets of litter. Manually remove litter in areas where litter cannot be removed mechanically. Do not mix litter with topsoil. Do not compact or drive upon litter during removal.

Place [INSERT DEPTH] of litter on finished topsoiled slopes.

624.05 Acceptance. Add the following:

Placing litter will be evaluated under Subsection 106.02.

Section 625.— TURF ESTABLISHMENT

Construction Requirements

Include the following for NPS (PNW) projects when turf establishment (or components thereof) are placed. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

625.03 General. Delete the text of this Subsection and substitute the following:

Apply [INSERT turf establishment, seed, fertilizer, or mulch] to finished slopes between [INSERT DATE] to October 15th. Do not seed during windy weather or when the ground is excessively wet, frozen, snow covered, extremely dry, cloddy, hard pan, or not friable.

Include the following for NPS (PNW) projects when watering is not required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

WA PRA-OLYM 103(2), Sol Duc Valley Road

625.05 Watering. Delete this Subsection.

Include the following for NPS (PNW) projects when watering is required. (07/01/05)

625.05 Watering. Delete the text of this Subsection and substitute the following.

Moisten seeding areas before seeding and maintain the moisture until 10 days after germination. Apply water in a manner not to create erosion.

Include the following for NPS (PNW) projects when fertilizing is required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

625.06 Fertilizing. Amend as follows:

(b) Hydraulic method. Delete the text of this Subsection and substitute the following:

Apply fertilizer at a rate of [INSERT pounds per acre OR kilograms per hectare]. Add fertilizer to the slurry and mix before adding seed. Apply the fertilizer and seed in one application. Fertilize areas inaccessible to hydro-type equipment by hand.

Include the following for NPS (PNW) projects when fertilizing is required and fertilizer and mulch are one application. (07/01/05)

Prior use:

WA PRA-OLYM 103(2), Sol Duc Valley Road

625.06 Fertilizing. Amend as follows:

(b) Hydraulic method. Delete the text of this Subsection and substitute the following:

Apply fertilizer at a rate of [INSERT pounds per acre OR kilograms per hectare]. Add fertilizer to the slurry and mix before adding mulch. Apply the fertilizer and mulch in one application. Fertilize areas inaccessible to hydro-type equipment by hand.

Include the following for NPS (PNW) projects when seeding is required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

625.07 Seeding. Amend as follows:

(b) Hydraulic method. Delete the text of this Subsection and substitute the following:

Apply the seed at the rate of [INSERT pounds OR kilograms] of pure live seed per [INSERT acre or hectare]. Use hydraulic-type equipment capable of providing a uniform application using water as the carrying agent. Add a tracer material consisting of wood fiber mulch to the water. Apply the tracer material at a rate of [INSERT 400 pounds per acre OR

450 kilograms per hectare] to provide visible evidence of uniform application. Add the seed to the water slurry no more than 30 minutes before application. Seed by hand areas inaccessible to seeding equipment.

Include the following for NPS (PNW) projects when mulching is required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

625.08 Mulching. Amend as follows:

(b) Hydraulic method. Delete the text of this Subsection and substitute the following:

Apply mulch in a separate application from the seed using hydraulic-type equipment according to Subsection 625.07(b).

Apply mulch at a rate of [INSERT pounds per acre OR kilograms per hectare] upon completion of [INSERT seeding, fertilizing, OR BOTH] applications. Do not include tracer applied in Subsection 625.07 as part of this application rate.

Mulch by hand areas inaccessible to mulching equipment.

Include the following for NPS (PNW) projects when mulching is required and fertilizer and mulch are one application. (07/01/05)

Prior use:

WA PRA-OLYM 103(2), Sol Duc Valley Road

625.08 Mulching. Amend as follows:

(b) Hydraulic method. Delete the text of this Subsection and substitute the following:

Apply mulch in a separate application from the seed using hydraulic-type equipment according to Subsection 625.07(b). Add mulch to fertilizer slurry.

Apply mulch at a rate of [INSERT pounds per acre OR kilograms per hectare] upon completion of the seeding application. Do not include tracer applied in Subsection 625.07 as part of this application rate.

Mulch by hand areas inaccessible to mulching equipment.

Section 626.— PLANTS, TREES, SHRUBS, VINES, AND GROUNDCOVERS

Include the following for NPS (PNW) projects requiring stone tree wells. Edit as (07/01/05) required.

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

Description

626.01 Add the following:

This work consists of furnishing and placing stone for tree wells.

Materials

626.02 Add the following to the material list:

Backfill material	704.03
Bed course	704.09
Stone for tree wells	705.07

Construction Requirements

626.03A Tree Wells. (Add Subsection.)

Excavate tree wells to a width and length that allows room for work. Where rock, hardpan, or other unyielding material is encountered, remove the material below the foundation grade to a depth of [INSERT 6 inches OR 150 millimeters]. When excavation is complete, request approval as to the character and suitability of the foundation material. Provide a firm foundation of uniform density throughout its length and width.

Follow OSHA safety regulations (29 CFR, Part 1926, Subpart P, Excavation) for sloping the sides of excavations, using shoring and bracing, and for using other safety features.

Place and compact bed course material to a [INSERT 6 inch OR 150 millimeter] depth. Compact the bed course with at least three passes of a lightweight mechanical tamper, roller, or vibratory system.

Place the stones in a stable orientation, with minimum void. Slightly incline the wall foundation and subsequent stone courses toward the back of the wall to achieve the required batter. Place the first course of stone on the bed course that is shaped to provide full contact between the stone and the aggregate. Use rock spalls to chock larger stones solidly in position and to fill voids between the stones.

Place and compact backfill material in layers not exceeding [INSERT 6 inches OR 150 millimeters] in depth. Compact the backfill material with at least three passes of a lightweight mechanical tamper, roller, or vibratory system.

626.14 Acceptance. Add the following:

Material for tree wells will be evaluated under Subsection 106.02 and 106.03.

Construction of tree wells will be evaluated under Subsection 106.02.

Section 629.— ROLLED EROSION CONTROL PRODUCTS AND CELLULAR CONFINEMENT SYSTEMS

Construction Requirements

Include the following for NPS (PNW) projects when RECP is required within 7 days after seeding. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

629.05 Erosion Control Blanket, Open Weave Textile, and Turf Reinforcement Mat (RECP, Types 1.B, 1.C, 1.D, 2.B, 2.C, 2.D, 3.B, 4, 5.A, 5.B, and 5.C). Add the following:

Apply RECP within 7 days after seeding is completed.

Include the following for NPS (PNW) projects when RECP is required within 7 days after completing slopes. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

629.05 Erosion Control Blanket, Open Weave Textile, and Turf Reinforcement Mat (RECP, Types 1.B, 1.C, 1.D, 2.B, 2.C, 2.D, 3.B, 4, 5.A, 5.B, and 5.C). Add the following:

Apply RECP beginning September 1 through October 15.

Install RECP on finished slopes within 7 days after completing slopes.

**Section 647.— ENVIRONMENTAL MITIGATION
(ADDED SECTION)**

Description

Include the following for NPS (PNW) projects when landscaping logs are required. (07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

647.01 This work consists of placing landscape logs on selected slopes.

Include the following for NPS (PNW) projects when streambed channel realignment is required. (07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.01 This work consists of constructing a streambed channel realignment.

Include the following for NPS (PNW) projects when log deflectors for fish habitat are required. (07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.01 This work consists of placing log deflectors.

Include the following for NPS (PNW) projects when rock weirs are required. (07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.01 This work consists of furnishing and placing riprap for rock weirs.

Include the following for NPS (PNW) projects when log deflectors for fish habitat, (07/01/05) landscaping logs, streambed channel realignment, or rock weirs are required.

Edit as required

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

Material

647.02 Conform to the following Sections and Subsections:

Boulders	204
Epoxy resin adhesives	725.21
Landscape log	201
Log deflectors	201
Riprap	705.02
Steel	7XX.XX
Streambed material	704.XX

Construction Requirements

Include the following for NPS (PNW) projects when landscaping logs are (07/01/05) required. Edit as required.

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.03 General. Finish slopes according to Section [INSERT 204, 211] and place topsoil according to Section 624.

Include the following for NPS (PNW) projects when realignment of a streambed (07/01/05) channel is required. Edit for specific project requirements.

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.03 General. Divert water prior to realigning streambed channel.

Include the following for NPS (PNW) projects when log deflectors for fish habitat, (07/01/05) landscaping logs, or rock weirs are required. Edit as required

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.03 General. Conserve logs for log deflectors under Section 201. Conserve boulders under Section 204. Stockpile logs and boulders at designated locations until ready for use.

Include the following for NPS (PNW) projects when landscaping logs are (07/01/05) required and may be staked on the downhill side of log. Edit as required.

647.04. Landscaping logs. Stagger trees and snags in a randomly to prevent the appearance of a pattern. Place trees and snags in a manner to prevent cut edges from being visible from the road, turnouts, or parking areas.

Stake trees and snags to slopes using minimum [INSERT 25x50x760 millimeter OR 1x2x30 inch] hardwood stakes. Use a minimum five stakes to anchor logs less than [INSERT 2.5 meters OR 8 feet] in length and one additional stake for each [INSERT 0.6 meters OR 2 feet] thereafter.

Drive stakes perpendicular to the ground line to a minimum depth of [INSERT 460 millimeters OR 18 inches] and so that the stakes do not protrude above the centerline height of the tree or snag.

Include the following for NPS (PNW) projects when landscaping logs are (07/01/05) required and anchored by drilling through the log. Edit as required.

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

647.04. Landscaping logs. Place logs on slopes in random fashion, to match surrounding undisturbed area. Lay logs flush with ground line. Place conserved logs on all finished slopes prior to winter shutdown.

On slopes greater than 1:3, use hardwood dowels, [INSERT 50 x750 millimeters OR 2x30 inches] in length. Anchor logs up to [INSERT 2.4 meters OR 8 feet] in length with a minimum of three stakes. Drill three holes evenly spaced through the log. Drive anchors perpendicular to the ground line and to a minimum depth of [INSERT 460 millimeters OR 18 inches]. An additional stake is required for every [INSERT 0.6 meters OR 2 feet] over [INSERT 2.4 meters OR 8 feet] length. Do not extend anchors above the log. Anchors shall not extend above the log. Logs placed at the toe of buttress slopes do not require anchoring.

Include the following for NPS (PNW) projects when streambed channel realignment is required. Edit as required

(07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.0X. Streambed Channel Realignment. Conserve streambed material prior to realigning channel. Excavate stream banks to the contour elevations shown in the plans. Finish slopes to provide gradual transitions in slope adjustments without noticeable breaks.

Place conserved and furnished streambed material to its full thickness in one operation to avoid displacing the underlying material. Do not place streambed material by methods that cause segregation or damage to the prepared surface.

Include the following for NPS (PNW) projects when rock weirs are required. Edit as required

(07/01/05)

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.0X. Rock Weir. Perform the work under Section 209. Place riprap on a prepared surface to form a well-graded mass.

Place riprap to its full thickness in one operation to avoid displacing the underlying material. Do not place riprap material by methods that cause segregation or damage to the prepared surface. Place or rearrange individual rocks by mechanical or hand methods to obtain a dense uniform blanket with a reasonably smooth surface.

Include the following for NPS (PNW) projects when log deflectors for fish habitat, landscaping logs, or rock weirs are required. Edit as required

(07/01/05)

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

WA PRA-OLYM 102(2), Grandey Creek Bridge

647.0X. Log Deflectors for Fish Habitat. Excavate and backfill according to Section 209. Compact the bed course with at least three passes of a lightweight mechanical tamper, roller, or vibratory system. Form the bed parallel to the finished surface of the log portion.

Drill a [INSERT 20 millimeter OR ½ inch] hole through the diameter of the log. Drill [INSERT 25 millimeter OR 1 inch] diameter hole into the boulder to a minimum depth of [INSERT 250 millimeters OR 10 inches]. Insert a [INSERT 19 millimeter OR ¾ inch] diameter threaded galvanized steel rod and secure using an epoxy resin adhesive.

Screw a galvanized steel eye nut on to steel rod and mushroom top of rod after tightening. Thread [INSERT 6 millimeter OR ¼ inch] diameter galvanized steel cable through steel eye nut

and log, remove slack, and tighten before attaching two galvanized steel cable clamps as shown on the plans.

Include the following for NPS (PNW) projects when work is required under this Section. (07/01/05)
Edit as required.

647.05 Acceptance. Material [INSERT landscape logs, log deflectors, rock weirs] will be evaluated under Subsections 106.02 and 106.03.

Placing [INSERT landscape logs, log deflectors, rock weirs] will be evaluated under Subsection 106.02.

Measurement

647.06 Measure the Section 646 items listed in the bid schedule according to Subsection 109.02.

Payment

647.07 The accepted quantities, measured as provided in Subsection 109.02 and above, will be paid at the contract price per unit of measurement for the Section 647 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Section 704.— SOIL

Include the following for NPS (PNW) projects requiring streambed material. Edit (07/01/05) as required.

Prior use:

WA PRA-OLYM 102(2), Grandey Creek Bridge

704.XX Streambed Material. (Added Subsection.)

(a) Furnish sound, durable, rounded or sub-rounded material free from organic matter, noxious weed seed or other deleterious material (such as shale, or other soft particles with poor durability), meeting the gradation in Table 704-X

**Table 704-X
Streambed Material Gradation**

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 & T 11)

Section 705.— ROCK

Include the following for NPS (PNW) projects requiring stone tree wells. Edit as (07/01/05) required.

Prior use:

WA PRA-MORA 10(10), State Route 123, Phase I

705.07 Stone for Tree Wells. (Added Subsection.)

Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic, noxious weeds, or other unsuitable material. Do not use shale, rock with shale seams, or other fissile or fissured rock that may break into smaller pieces in the process of handling and placing.

The length of the base course stones should be greater than or equal to 0.5 times the wall height. Larger stones are preferable. Furnish stones with a minimum length [INSERT 24 inches OR 600 millimeters] in the smallest dimension, with breadth and thickness of at least one-half its length.

Section 713.— ROADSIDE IMPROVEMENT MATERIAL

Include the following for NPS (PNW) projects requiring topsoil to be furnished from a specific supplier. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

713.01 Topsoil. Amend as follows:

(a) **Furnished topsoil.** Delete the text of this paragraph and substitute the following:

Obtain topsoil from:

[INSERT COMPANY NAME]

[INSERT ADDRESS]

[INSERT CITY, STATE, AND ZIPCODE]

[INSERT NAME OF CONTACT AND PHONE NUMBER]

Include the following for NPS (PNW) projects requiring these specific fertilizer components. Edit as required. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

WA PRA-MORA 10(10), State Route 123, Phase I

713.03 Fertilizer. Delete the text of this Subsection and substitute the following:

Furnish BioSol or approved equal.

Furnish a sterilized, weed-free, slow release fertilizer composed of 93% fungal biomass, 4% water, and 3% potassium-magnesia. The nutrient ratio of the fertilizer shall be as follows:

Nitrogen	6%
Phosphorus	1%
Potassium	3%
Nutrient ratio:	N-P-K 6-1-3
Organic Substance:	70%
Carbon/Nitrogen ratio:	6:1
Nitrogen (total):	>6%
Nitrogen (water soluble)	<0.5%
Phosphorus (P ₂ O ₅):	1 to 2%
Potash (K ₂ O):	3 to 4%
PH level:	5-6

Determine the available percent for each nutrient and the application rate for the total mix. Supply this information with the certification.

Include the following for NPS (PNW) projects requiring Government furnished fertilizer. (07/01/05)

Prior use:

WA PRA-OLYM 103(2), Sol Duc Valley Road

713.03 Fertilizer. Delete the text of this Subsection and substitute the following:

Fertilizer will be Government furnished.

Include the following for NPS (PNW) projects when seeding is required. (07/01/05)

713.04 Seed. Add the following:

Furnish a mixture consisting of the following kinds of seed with the corresponding percentages by weight of “live seed”:

[INSERT COMMON NAME, (BOTANICAL NAME)]	[INSERT % OF SEED]
[INSERT COMMON NAME, (BOTANICAL NAME)]	[INSERT % OF SEED]
[INSERT COMMON NAME, (BOTANICAL NAME)]	[INSERT % OF SEED]

Determine the amount of “live seed” in a container by the following formula: Net weight of seed in container multiplied by the purity percentage multiplied by the germination percentage. (If seed is 85% pure and tests 90% germination, then a 100 pound container would contain 75.6 pounds of “live seed”.)

Include the following for NPS (PNW) projects requiring Government furnished seed. (07/01/05)

Prior use:

OR PRA-CRLA 11(4), Rehabilitate Highway 62 West

713.04 Seed. Delete the text of this Subsection and substitute the following:

Seed will be Government furnished.

Include the following for NPS (PNW) projects requiring mulch. Edit as required. (07/01/05)

713.05 Mulch. Delete the text of this Subsection and substitute the following:

Furnish 100 percent virgin wood fiber with preblended tackifier. from wood chips conforming to the following:

(a) Colored with a green dye noninjurious to plant growth;

- (b) Readily dispersible in water;
- (c) Nontoxic to seed or other plant material;
- (d) Free of growth or germination inhibiting substances;
- (e) Free of weed seed;
- (f) Air dried to an equilibrium moisture content of 12±3 percent;
- (g) Packaged in new labeled containers; and
- (h) Packaged in a condition appropriate for mixing in a homogeneous slurry suitable for application with power spray equipment.

Include the following for NPS (PNW) projects requiring mulch and emulsified asphalt as a tackifier is not an option. (07/01/05)

713.12 Stabilizing Emulsion Tackifiers. Delete paragraph (a).

Include the following for NPS (PNW) projects where erosion control bales, wattles, logs, and rolls are required. (07/01/05)

713.13 Erosion Control Bales, Wattles, Logs, and Rolls. Amend as follows:

Delete paragraph (a).

Add the following:

Furnish products certified weed free. Submit a representative sample two weeks before use.

Include the following for NPS (PNW) projects when temporary RECP is required. (07/01/05)

713.17 Temporary Rolled Erosion Control Products. Amend as follows:

Delete the text of the first paragraph and substitute the following:

Furnish temporary rolled erosion control products conforming to Table 713-3 and the following. See the Erosion Control Technology Council website (ECTC.org) for commercially available products that may conform to these specifications.

Submit a representative sample and certify the straw is weed free, two weeks before use for products containing straw.

Include the following for NPS (PNW) projects when temporary RECP, type 1.A is required. Edit as required. (07/01/05)

(a) Type 1.A, ultra-short term mulch control netting. Delete the text of this paragraph and substitute the following:

Furnish a mulch control netting consisting of rapidly degrading woven biodegradable natural fiber netting with a 3-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:5H and channels with shear stresses up to [INSERT 0.25 pounds per square foot OR 12 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 1.B is required. Edit as required. (07/01/05)

(b) Type 1.B, ultra-short term netless erosion control blanket. Delete the text of this paragraph and substitute the following:

Furnish an erosion control blanket composed of processed rapidly degrading natural fibers mechanically interlocked or chemically adhered together to form a continuous matrix with a 3-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:4H and channels with shear stresses up to [INSERT 0.50 pounds per square foot OR 24 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 1.C is (07/01/05) required. Edit as required.

(c) Type 1.C, ultra-short term single-net erosion control blanket and open weave textile. Delete the text of this paragraph and substitute the following:

Furnish one of the following materials: (1) an erosion control blanket composed of processed degradable natural fibers (wood excelsior, weed-free straw, straw/coconut fiber mix) mechanically-bound together by a single rapidly degrading, natural fiber netting to form a continuous matrix or (2) an open weave textile composed of processed rapidly degrading natural yarns or twines woven into a continuous matrix. The material must have a 3-month typical functional longevity and be designed for use on geotechnically stable slopes with gradients up to 1V:3H and channels with shear stresses up to [INSERT 1.50 pounds per square foot OR 72 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 1.D is (07/01/05) required. Edit as required.

(d) Type 1.D, ultra-short term double-net erosion control blankets. Delete the text of this paragraph and substitute the following:

Furnish an erosion control blanket composed of processed natural fibers mechanically-bound between two rapidly degrading, natural fiber nettings to form a continuous matrix, with a 3-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:2H and channels with shear stresses up to [INSERT 1.75 pounds per square foot OR 84 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 2.A is (07/01/05) required. Edit as required.

(e) Type 2.A, short-term mulch control netting. Delete the text of this paragraph and substitute the following:

Furnish a mulch control netting consisting of woven biodegradable natural fiber netting with a 12-month typical functional longevity designed for use on geotechnically stable slopes up to 1V:5H and channels with shear stresses up to [INSERT 0.25 pounds per square foot OR 12 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 2.B is (07/01/05) required. Edit as required.

(f) Type 2.B, short-term netless erosion control blanket. Delete the text of this paragraph and substitute the following:

Furnish an erosion control blanket composed of processed degradable natural fibers mechanically-interlocked or chemically-adhered together to form a continuous matrix with a 12-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:4H and channels with shear stresses up to [INSERT 0.50 pounds per square foot OR 24 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 2.C is (07/01/05) required. Edit as required.

(g) Type 2.C, short-term single-net erosion control blanket or open weave textile. Delete the text of this paragraph and substitute the following:

Furnish one of the following materials: (1) an erosion control blanket composed of processed degradable natural fibers mechanically-bound together by a single degradable natural fiber netting to form a continuous matrix; or (2) an open weave textile composed of processed degradable natural yarns or twines woven into a continuous matrix. The material must have a 12-month typical functional longevity and be designed for use on geotechnically stable slopes with gradients up to 1V:3H and channels with shear stresses up to [INSERT 1.50 pounds per square foot OR 72 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 2.D is (07/01/05) required. Edit as required.

(h) Type 2.D, short-term double-net erosion control blankets. Delete the text of this paragraph and substitute the following:

Furnish an erosion control blanket composed of processed natural fibers mechanically bound between two natural fiber nettings to form a continuous matrix with a 12-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:2H and channels with shear stresses up to [INSERT 1.75 pounds per square foot OR 84 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 3.A is (07/01/05) required. Edit as required.

(i) Type 3.A, extended term mulch control netting. Delete the text of this paragraph and substitute the following:

Furnish a mulch control netting consisting of a slow degrading woven natural fiber netting with a 24-month typical functional longevity designed for use on geotechnically stable slopes with gradients up to 1V:5H and channels with shear stresses up to [INSERT 0.25 pounds per square foot OR 12 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 3.B is (07/01/05) required. Edit as required.

(j) Type 3.B, extended term erosion control blanket or open weave textile. Delete the text of this paragraph and substitute the following:

Furnish one of the following materials: (1) an erosion control blanket composed of processed slow degrading natural fibers mechanically-bound together between two slow degrading natural fiber nettings to form a continuous matrix; or (2) an open weave textile composed of processed slow degrading natural yarns or twines woven into a continuous matrix. The material must have a 24-month typical functional longevity and be designed for use on geotechnically stable slopes with gradients up to 1V:1½H and channels with shear stresses up to [INSERT 2.00 pounds per square foot OR 96 pascals].

Include the following for NPS (PNW) projects when temporary RECP, type 4 is (07/01/05) required. Edit as required.

(k) Type 4, long-term erosion control blanket or open weave textile. Delete the text of this paragraph and substitute the following:

Furnish one of the following materials: (1) an erosion control blanket composed of processed slow degrading natural fibers mechanically-bound together between two slow degrading natural fiber nettings to form a continuous matrix; or (2) an open weave textile composed of processed slow degrading natural yarns or twines woven into a continuous matrix. The material must have a 36-month typical functional longevity and be designed for use on geotechnically stable slopes with gradients up to 1V:1H and channels with shear stresses up to [INSERT 2.25 pounds per square foot OR 108 pascals].

Include the following for NPS (PNW) projects when glyphosate is required.

(07/01/05)

713.XX Glyphosate. (Added Subsection.)

Furnish glyphosate with an added wetting agent nonionic surfactant for killing noxious weeds. Acceptable products for the glyphosate may be identified but not limited to the following brand names: Round Up, Rattler, or Jury. Acceptable products for the nonionic surfactant may be identified but not limited to the following brand names: Ortho X-77, Spreader Sticker or Super Spread 200.